YORK

BY JOHNSON CONTROLS

YHM Fan Coil



YHM High Wall Fan Coils

EUROVENT CERTIFIED PERFORMANCE

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YHM HIGH WALL FAN COIL

The York ***YHM*** high wall fan coils harmoniously combine the needs of performance, silence, ease of installation and simple maintenance, through a range of four models.

YHMY MODEL WITHOUT INFRA-RED REMOTE CONTROL

YHMY units can be operated using the York wall-mounted controls after having completed the simple electrical connections.

YHMH MODEL WITH INFRA-RED REMOTE CONTROL

YHMH units are operated using the elegant infra-red remote control, providing complete control over the functions of the unit.

YHMH-V MODEL WITH INFRA-RED REMOTE CONTROL AND 3 WAY FITTED VALVE

YHMH-V units include 3 way fitted valve.



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Johnson Controls take part to the Eurovent program of fan coil performance certification. The official figures are published in the web site www.eurovent-certification.com and in the web site www.certiflash.com.
The tested performances are:

- Cooling total emission at the following conditions:
  - Water temperature +7°C E.W.T. +12°C L.W.T.
  - Entering air temperature +27°C dry bulb +19°C wet bulb
- Cooling sensible emission at the following conditions:
  - Water temperature +7°C E.W.T. +12°C L.W.T.
  - Entering air temperature +27°C dry bulb +19°C wet bulb
- Heating emission (2 pipe units) at the following conditions:
  - Entering water temperature +50°C
  - Entering air temperature +20°C
  - *Water flow rate as for the cooling conditions*
- Fan absorption
- Water pressure drop
- Sound power

Versions

YHMY four models without valves for wired wall controls.
YHMH four models without valves with infra-red remote control.
YHMH-V two models with 3 way fitted valves and with infra-red remote control.

Cabinet

Made from a strong plastic structure with exceptional mechanical characteristics and excellent resistance to ageing.

Filter

Washable-regenerable synthetic filter, readily accessible.

Fan assembly and electric motor

Tangential fan with three-speed motor, ensuring high efficiency and minimal noise levels.

Heat exchange coil

Made from copper tubes and aluminium fins; the coil has two 12mm diameter copper pipe connections.
Supplied complete with the connectors to be fitted at the end of the water pipes and on the fan coil connections.

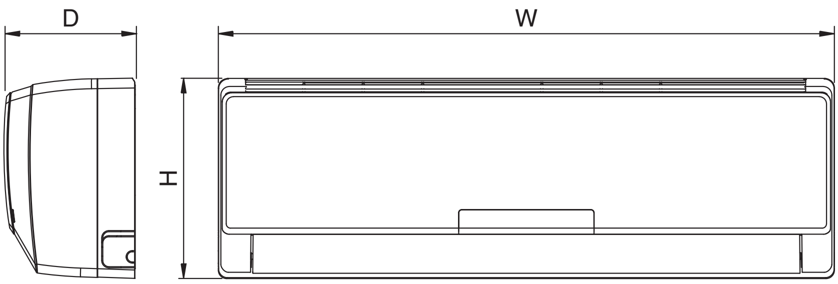
Condensate collection tray

Made from plastic, with 16mm OD fitting.

Drilling template

Each unit is supplied with a paper template for mounting the unit on the wall.

Dimensions and weights



Model	Weight	W	H	D
	kg	mm	mm	mm
YHMY / YHMH 20	10	845	270	180
YHMY / YHMH 30	10	845	270	180
YHMY / YHMH 40	13	920	298	200
YHMY / YHMH 50	13	920	298	200
YHMH-V 20	11	845	270	180
YHMH-V 30	13	920	298	200

The following standard rating conditions are used:

COOLING (summer mode)

Entering air temperature +27°C d.b. +19°C w.b.
Water temperature + 7°C E.W.T. +12°C L.W.T.

HEATING (winter mode)

Entering air temperature +20°C
Entering water temperature +50°C

Water flow rate as for the cooling conditions

UNITS WITHOUT VALVES (ACCESSORY ON REQUEST)

YHMY / YHMH MODEL		20			30			40			50		
Speed		1	2	3	1	2	3	1	2	3	1	2	3
Air flow	m³/h	334	376	436	403	522	632	570	691	780	697	810	920
Cooling total emission	kW	1,65	1,85	2,15	1,75	2,00	2,80	3,10	3,40	4,00	3,35	3,90	4,70
Cooling sensible emission	kW	1,45	1,60	1,82	1,55	1,75	2,48	2,60	2,90	3,40	2,85	3,30	3,60
Heating	kW	1,98	2,30	2,70	2,20	2,55	3,60	3,80	4,20	4,90	4,15	4,85	5,80
Δp Cooling	kPa	5,4	7,3	10,0	6,1	7,8	16,0	20,5	24,5	37,0	24,0	34,0	46,0
Δp Heating	kPa	4,9	6,6	9,0	5,7	7,3	15,0	19,4	23,2	35,0	23,0	32,5	44,0
Fan	W	24			28			40			50		
Sound power	dB(A)	38	42	45	39	42	52	48	52	55	53	56	60
Sound pressure (*)	dB(A)	29	33	36	30	33	43	39	43	46	44	47	51

UNITS WITH FITTED VALVES

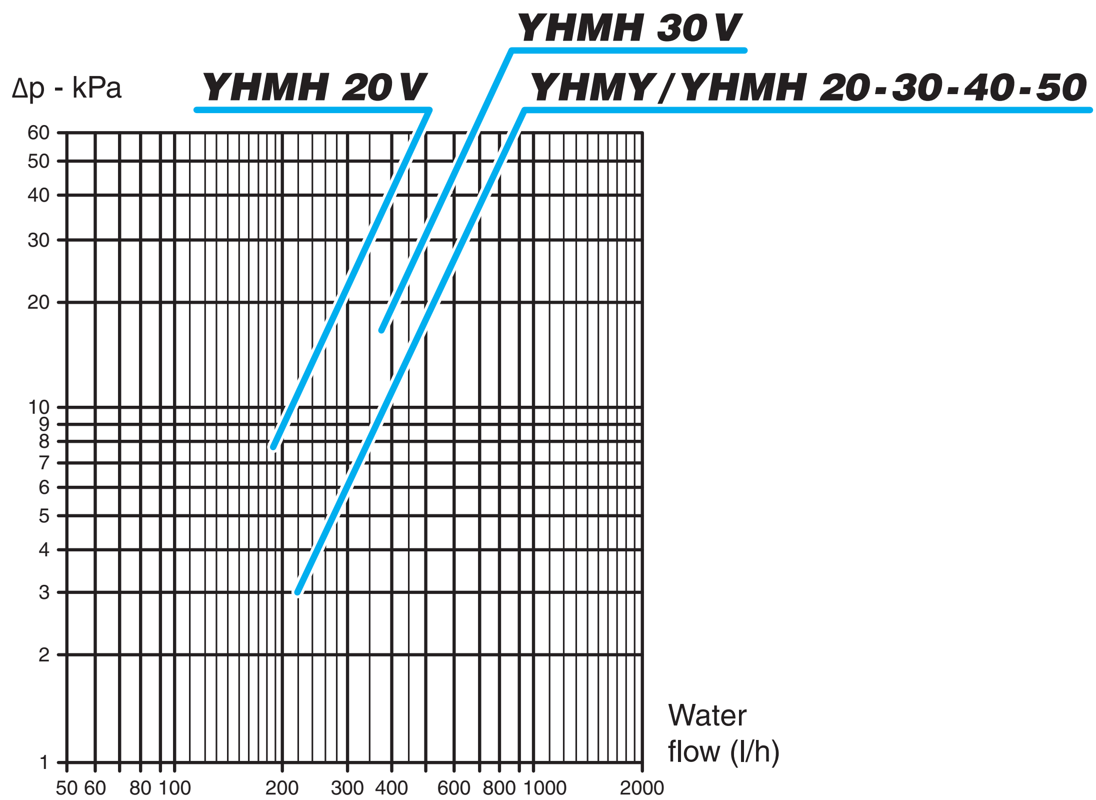
YHMH-V MODEL		20			30		
Speed		1	2	3	1	2	3
Air flow	m³/h	323	383	450	490	560	650
Cooling total emission	kW	1,22	1,45	1,70	2,41	2,76	3,20
Cooling sensible emission	kW	0,92	1,08	1,28	1,81	2,07	2,40
Heating	kW	1,71	2,02	2,38	3,40	3,89	4,51
Δp Cooling	kPa	9,5	14,5	20,0	20,0	26,0	38,0
Δp Heating	kPa	8,6	13,5	19,0	19,0	24,7	36,5
Fan	W	50			60		
Sound power	dB(A)	41	47	53	47	52	59
Sound pressure (*)	dB(A)	32	38	44	38	43	50

(*) = The sound pressure levels are 9 dB(A) lower than the sound power levels and apply to the reverberant field of a 100 m³ room and a reverberation time of 0.5 sec.

Operating limits

Water flow	MAX. working pressure: 8 bars	MIN. entering water temperature: +5°C MAX. entering water temperature: +60°C
Air flow	Suitable relative humidity: 25-85%	MIN. entering air temperature: +6°C MAX. entering air temperature: +40°C
Supply	Single phase 230V / 1 / 50Hz	
Installation	MIN. height: 2,3 m MAX. height: 3,2 m	

Water side pressure drop

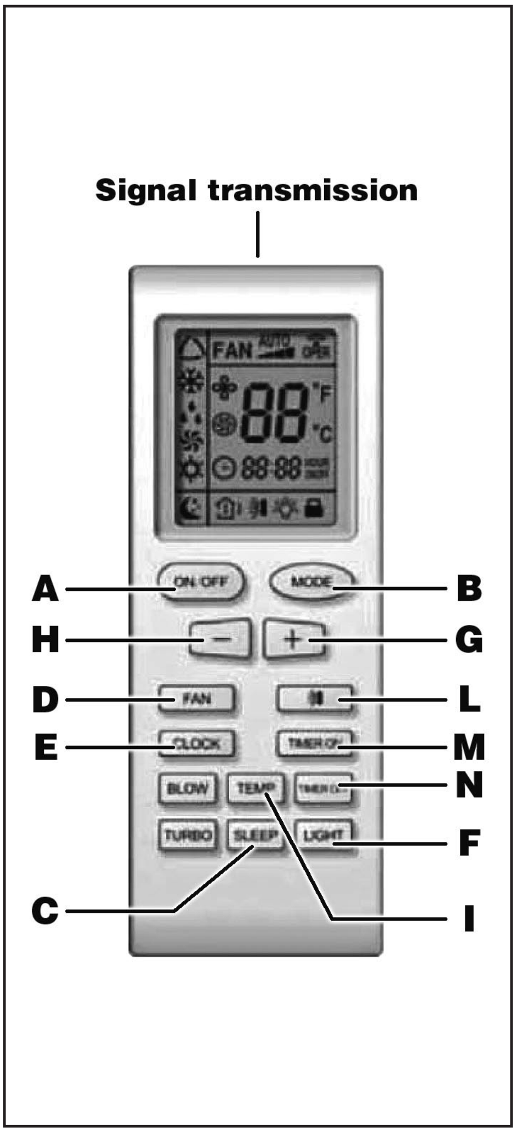


The water pressure drop figures refer to a mean water temperature of ***10°C;*** for different temperatures, multiply the pressure drop figures by the correction factors ***K.***

°C	***20***	***30***	***40***	***50***	***60***
K	***0,94***	***0,90***	***0,86***	***0,82***	***0,78***

Infra-red remote control

The ***YHMH units*** are very high quality units designed for residential application.
The elegance of the aesthetics, the electronic control and the top quality components ensure perfect integration into the environment and a high level of comfort.



A. ON/OFF
Used to switch the unit ON and OFF.
Note: the settings continue to appear on the display even with the fan coil switched off.

B. MODE
Used to select the mode of operation (cooling, heating, dehumidifying, dry, fan).

C. SLEEP
Used to set or cancel the SLEEP function.

D. FAN
Used to set the fan speed in sequence to automatic, high, medium, low.

E. CLOCK
Used to set the time.

F. LIGHT
Used to switch the display light ON and OFF.

G. TEMPERATURE INCREASING
Used to increase set temperature.

H. TEMPERATURE DECREASING
Used to decrease set temperature.

I. TEMP
Used to display the set temperature or room temperature.

L. SWING UP AND DOWN
Used to set up swing angle.

M. TIMER ON
Used to switch the unit ON.

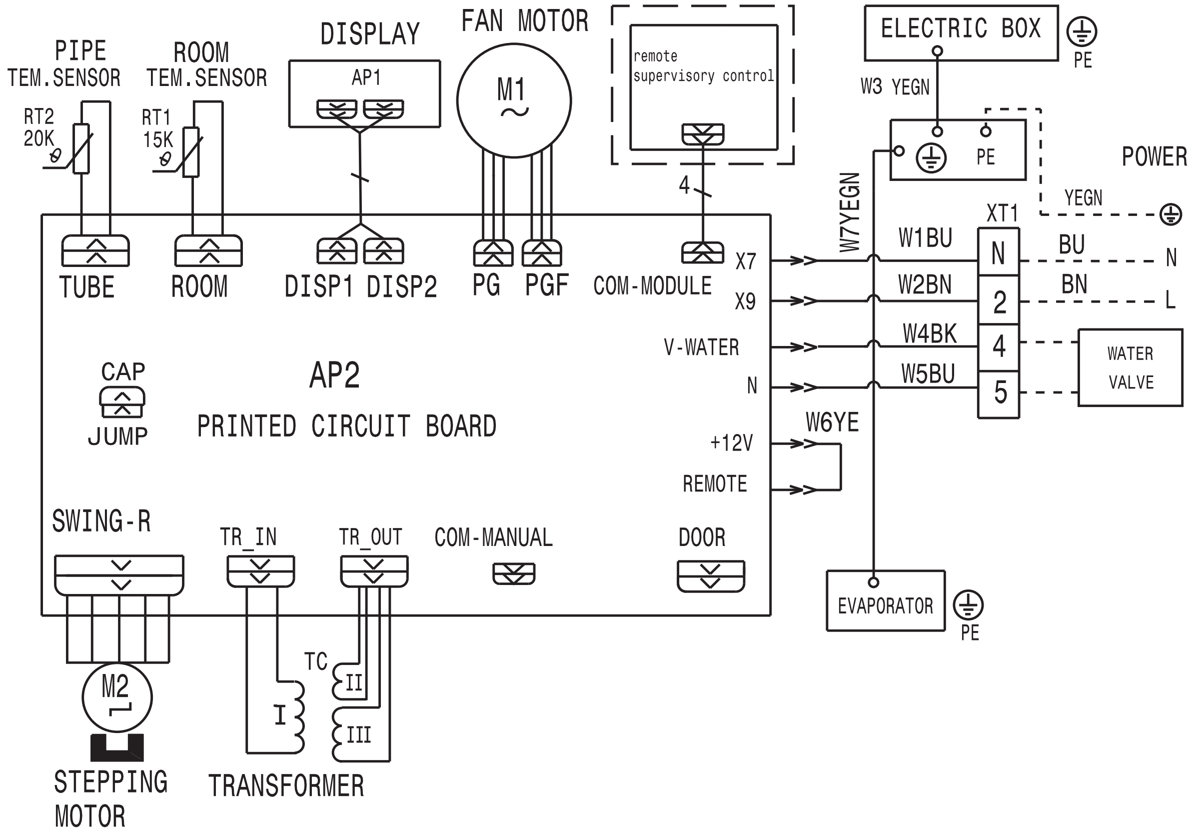
N. TIMER OFF
Used to switch the unit OFF.

Symbols on the liquid crystal display:

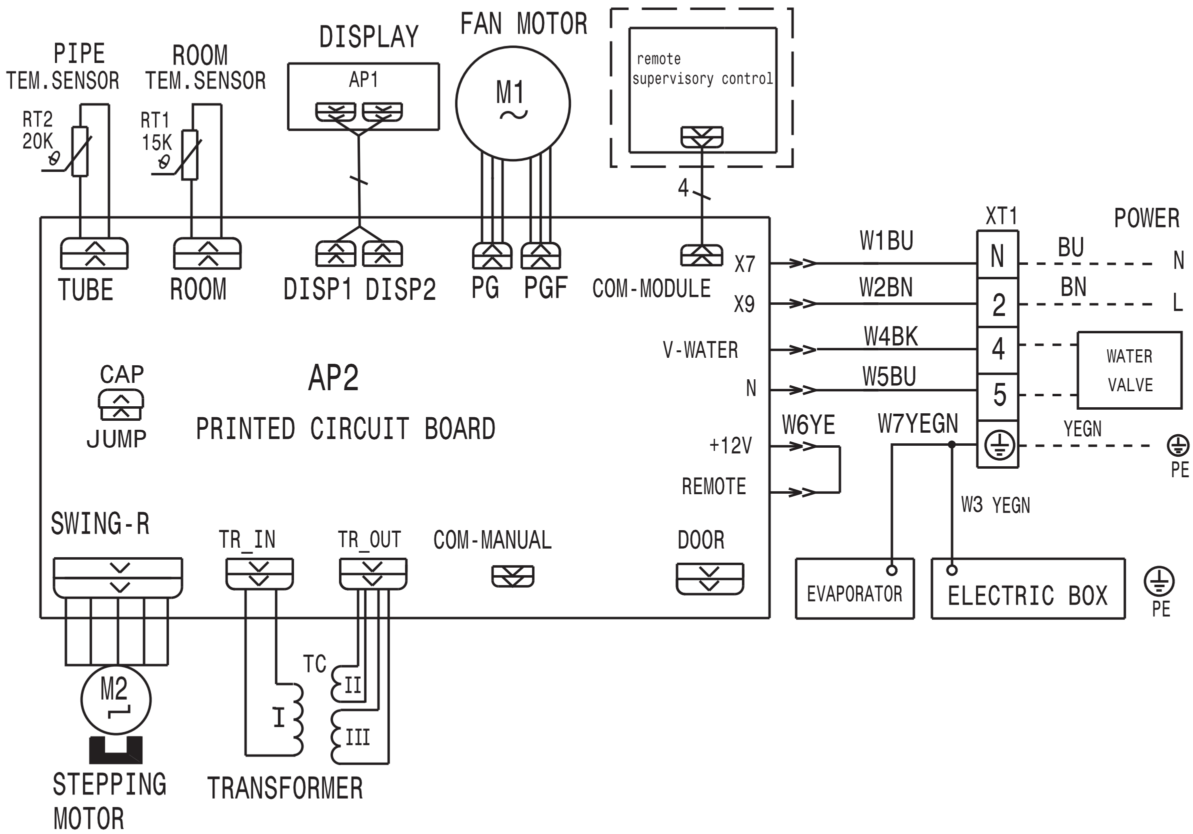
Auto	**Clock**
Cool	**Light**
Dry	**Sleep**
Fan	**Temp**
Heat	**Padlock**
Low FAN	
Middle FAN	
High FAN	

Connection terminal block

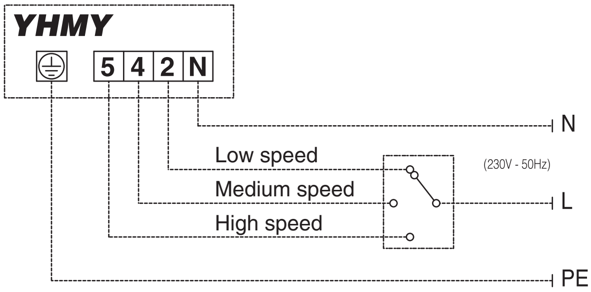
YHMH 20 / YHMH 30 / YHMH 20V



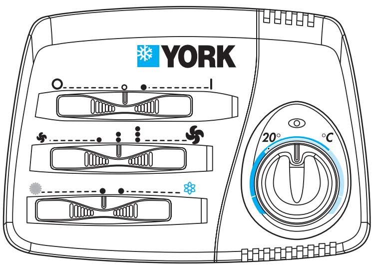
YHMH 40 / YHMH 50 / YHMH 30V



Wiring diagram



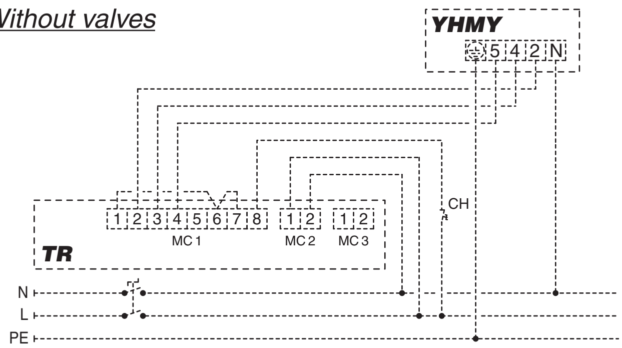
Electrical connections with York electronic controls



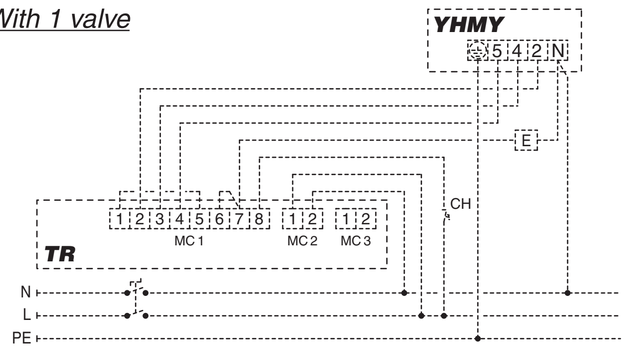
- Manual speed switch.
- Manual Summer/Winter switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF) (the fan keeps working).
- It allows to control the low temperature cut-out thermostat (TME).
- It allows to install the Summer/Winter switch centralized and remote, or to control it with an automatic change-over fitted on the water pipe (for 2 pipe installations only). The latter case needs the adjustment of the jumper on the control board (see the instruction leaflet supplied with the control).

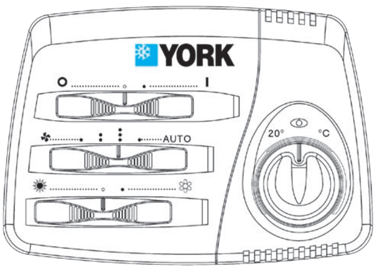
IDENTIFICATION	CODE
TR	*9060541*

Without valves



With 1 valve



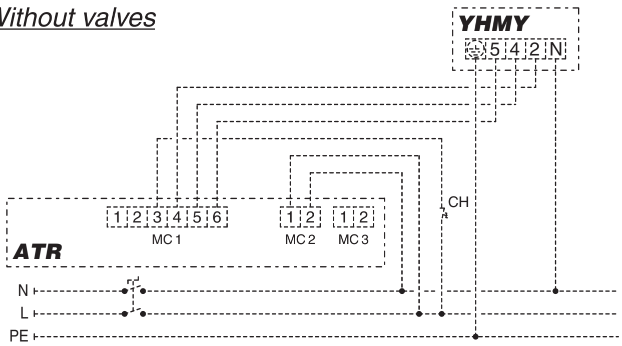


Same characteristics as TR, adding:

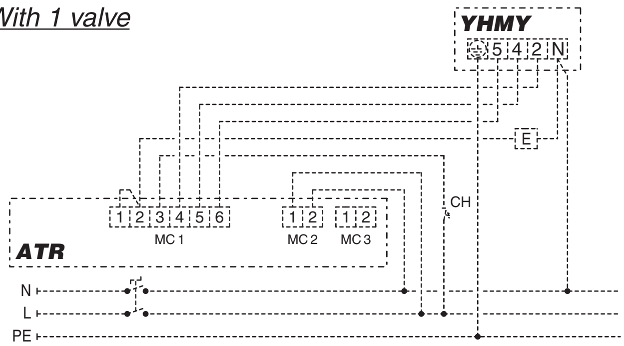
- Manual or automatic speed switch.
- Electronic thermostat for fan control (ON-OFF).
- Electronic thermostat for valve(s) control (ON-OFF).
- Simultaneus thermostatic control of the valves and fan (ON-OFF).
- It allows to install the Summer/Winter switch centralized and remote, or to control it with an automatic change-over fitted on the water pipe (for 2 pipe installations only). The latter case needs the adjustment of the jumper on the control board (see the instruction leaflet supplied with the control).

IDENTIFICATION	CODE
ATR	*9060542*

Without valves



With 1 valve



*On the **YHMY** models with wall controls, the air louvre has to be adjusted manually.*

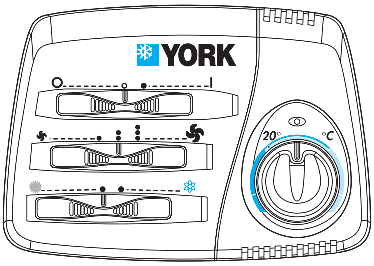
LEGEND:

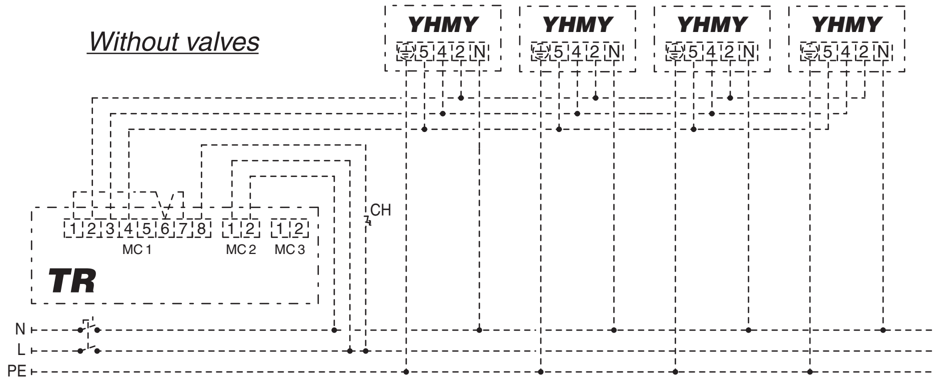
YHMY	=	YHMY electrical board
TR	=	TR electrical board
ATR	=	ATR electrical board
CH	=	Remote Summer/Winter switch
E	=	Valve set (2 pipe installation)

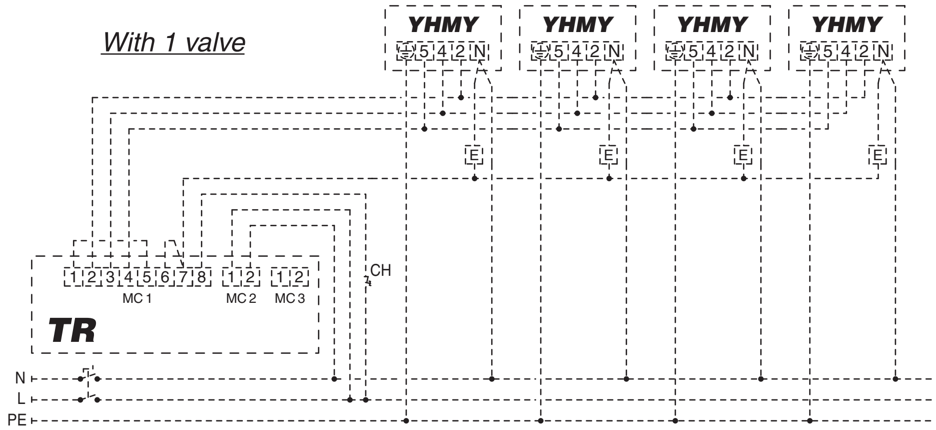
Electrical connections of more units with York electronic controls

A maximum of 4 units can be connected together; the units must be of the same size.

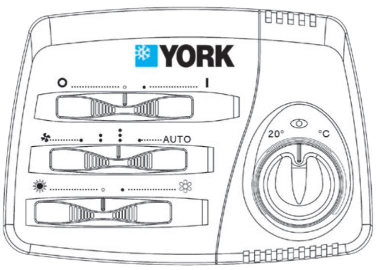
IDENTIFICATION	CODE
TR	*9060541*

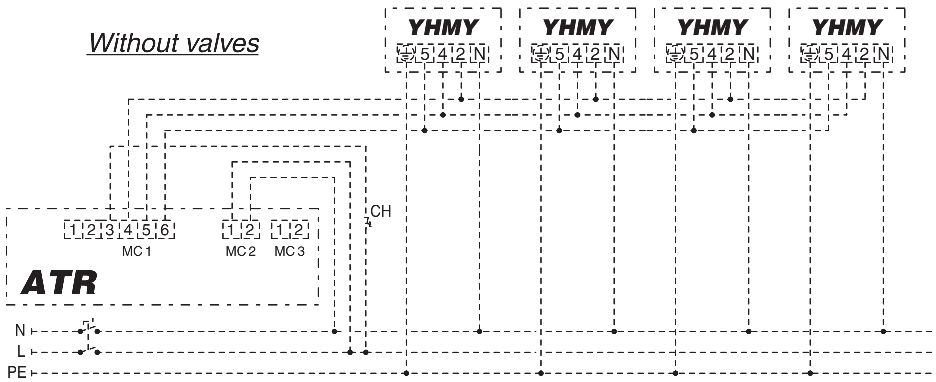


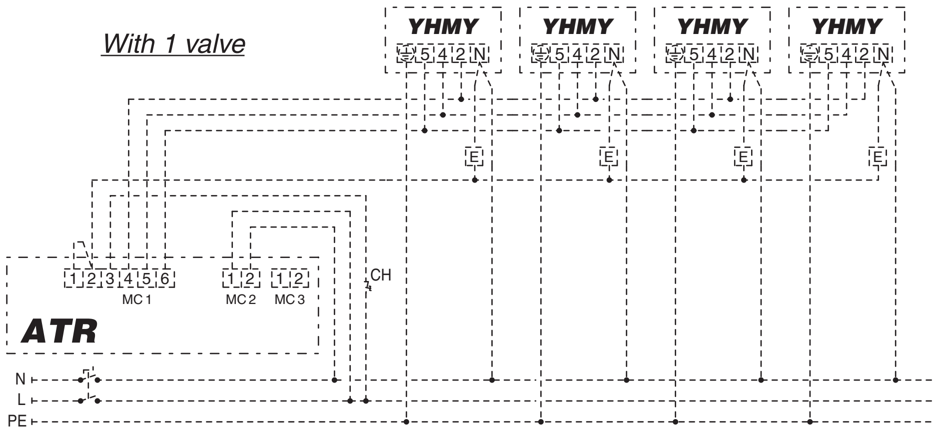




IDENTIFICATION	CODE
ATR	*9060542*



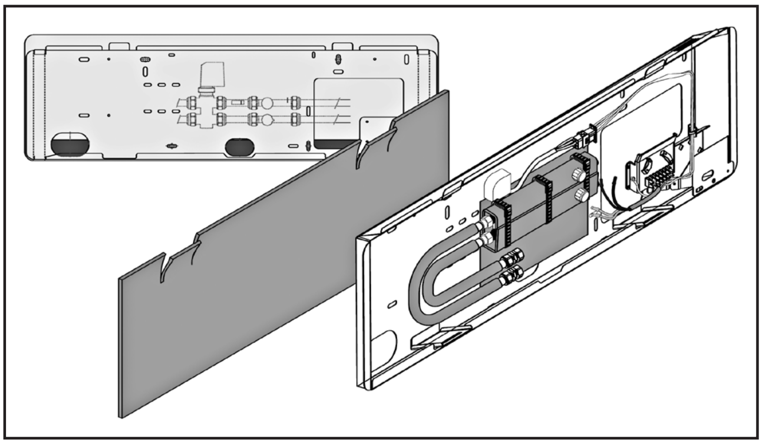




LEGEND:

- ***YHMY*** = YHMY electrical board
- ***TR*** = TR electrical board
- ***ATR*** = ATR electrical board
- ***CH*** = Remote Summer/Winter switch
- ***E*** = Valve set (2 pipe installation)

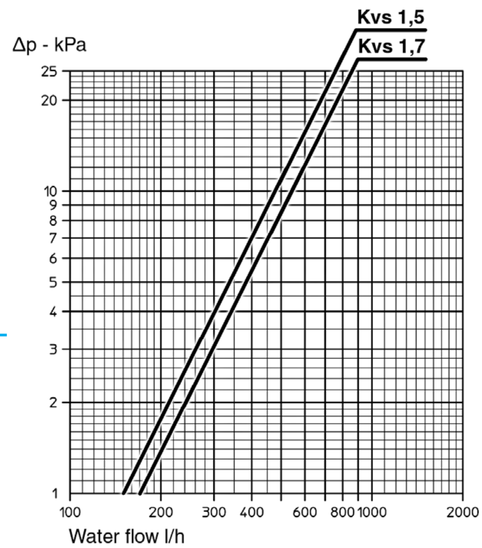
3 way valve frame



Water flow control kit with 3 way
ON-OFF valves with thermoelectric actuator.
The kit includes
the connection pipes and the valves.
This kit allows the water flow to be diverted
from the coil in order to cut out operation.

3 way valve technical data:

- MAX. operating temperature 100°C
- Actuator movement 2,5 mm
- Power supply 230 V
- Power supply cable 0,6 mt
- Input 5 W
- Regulation signal ON-OFF
- Ambient operating temperature 0 ÷ 50°C
- Thrust 180 N (40 lbs)
- Max. differential pressure:
  - Maximum aperture flow coefficient 1,7 Kvs
  - By-pass flow coefficient 1,5 Kvs
- Reaction time (in operation) 2 - 4 min.
- Protection IP 42
- Heating element PTC
- Weight 0,13 kg



2 way valve

2 way valve ON-OFF with thermoelectric actuator.
Suitable for the connection with Ø 12mm pipes.

Actuator characteristics:

- Max. ambient temperature: 50°C
- Supply: 230 V - 50/60 Hz
- Power: 5 W
- Protection: IP 44
- Reaction time: approx. 4 min.
- Max. glycol content of water: 50%

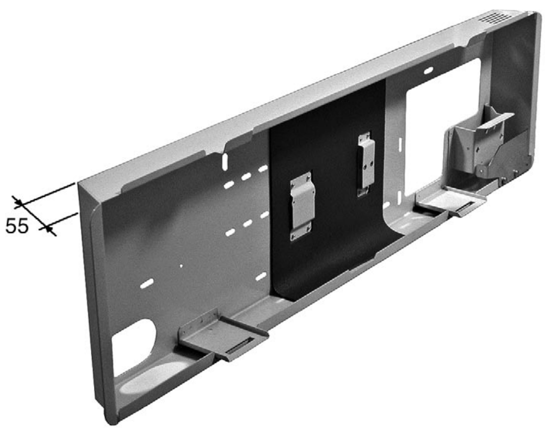


Valves characteristics:

- Max. rated pressure: 16 bar
- Kvs: 1,7
- Maximum pressure difference for valve to close (ΔPMAX): 80 kPa
- Valve connection (external thread): 1/2"

Frame

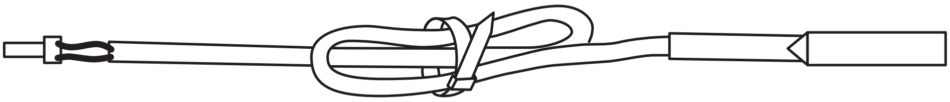
Frame for installation of valves (non included).



TME low temperature cut-out thermostat

To be used with the following controls: TR and ATR.
To be fitted between the coil fins; when connecting the control,
the TME probe cable must be separated from the power supply wires.

IDENTIFICATION	CODE
TME	*3021091*

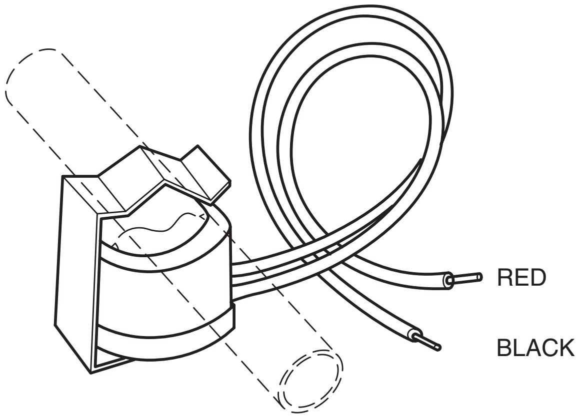


It stops the fan when the water temperature is lower than 38°C and it starts the fan when is higher than 42°C.

Change-Over CH 15-25

To be used with the following controls: TR and ATR.
Automatic summer/winter switch
to be installed in contact with the water circuit.

IDENTIFICATION	CODE
CH 15-25	*9053049*



The descriptions and illustrations provided in this publication are not binding: Johnson Controls reserve the right, whilst maintaining the essential characteristics of the types described and illustrated, to make, at any time, without the requirement to promptly update this piece of literature, any changes that it considers useful for the purpose of improvement or for any other manufacturing or commercial requirements.

YORK

BY JOHNSON CONTROLS

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